

CLAIMS

What is claimed is:

1. An air purge valve, comprising:
 - a valve cap;
 - a screw-threaded portion connected below the valve cap; and
 - a valve stem connected at the top to the screw-threaded portion and having at least one outward-facing inverse hook at the bottom.
2. The air purge valve of claim 1, further comprising a seal ring surrounding the screw-threaded portion and located just below the valve cap.
3. The air purge valve of claim 1, further comprising a valve opening slot in the screw-threaded portion.
4. The air purge valve of claim 2, further comprising a valve opening slot in the screw-threaded portion.
5. The air purge valve of claim 1, wherein the width of the top of the valve stem is smaller than an opening in an associated filter cap retainer or other pump element and the width of the bottom of the valve stem is wider than the opening of the filter cap retainer or other pump element.
6. A valve, comprising:
 - a valve cap having a valve cap screw-threaded portion;

a filter cap retainer defining a central hollow portion having screw threads that mate with the valve cap screw-threaded portion; and

a valve stem connected at the top to the valve cap screw-threaded portion and having at least one inverse hook at the bottom, wherein the width of the top of the valve stem is smaller than the filter cap retainer central hollow portion and the width of the bottom of the valve stem is wider than the filter cap retainer central hollow portion.

7. The valve of claim 6, further comprising a seal ring surrounding the valve cap screw-threaded portion and located just below the valve cap.

8. The valve of claim 6, further comprising a valve opening slot in the valve cap screw-threaded portion.

9. The valve of claim 7, further comprising a valve opening slot in the valve cap screw-threaded portion.

10. The valve of claim 6, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.

11. The valve of claim 7, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.

12. The valve of claim 8, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.

13. The valve of claim 9, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.

14. A filter pump cover comprising:
a filter cap;
a valve cap accessible through the filter cap;
a screw-threaded portion connected below the valve cap;
a filter cap retainer defining a central hollow portion having screw threads that mate with the screw-threaded portion; and
a valve stem connected at the top to the screw-threaded portion and having at least one inverse hook at the bottom, wherein the width of the top of the valve stem is smaller than the filter cap retainer central hollow portion and the width of the bottom of the valve stem is wider than the filter cap retainer central hollow portion.

15. The filter pump cover of claim 14, further comprising a seal ring surrounding the screw-threaded portion and located just below the valve cap.

16. The filter pump cover of claim 14, further comprising a valve opening slot in the screw-threaded portion.

17. The filter pump cover of claim 15, further comprising a valve opening slot in the screw-threaded portion.

18. The filter pump cover of claim 14, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.

19. The filter pump cover of claim 15, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.

20. The filter pump cover of claim 16, further comprising at least one fixing slot at the bottom of the filter cap retainer central hollow portion.